

**Rocky Flats Citizens Advisory Board  
Meeting Minutes  
September 1, 2005  
6 to 9 p.m.  
College Hill Library, Room L-107  
Front Range Community College, Westminster, Colorado**

Board Chair Jerry DePoorter called the meeting to order at 6:00 p.m.

**BOARD / EX-OFFICIO MEMBERS PRESENT:** Suzanne Allen, Jerry DePoorter, Earl Gunia, Erin Hamby, Bill Kossack, Mary Mattson, Mike Maus, Bill McNeill / Dean Rundle (USFWS), Mark Aguilar (EPA), Scott Surovchak (DOE-LM), Dave Kruchek (CDPHE), Carl Spreng (CDPHE), John Rampe (DOE-RFFO)

**BOARD / EX-OFFICIO MEMBERS ABSENT:** Joe Downey, Andrew Ross, Hank Stovall, Phil Tomlinson / none

**PUBLIC / OBSERVERS PRESENT:** Bob Darr (DOE-RFPO), Glenn Fischer (GAO), Rob Henneke (EPA), Dave Shelton (Kaiser-Hill), Rik Getty (RFCLoG), Jeanette Alberg (Senator Allard), Carolyn (Senator Allard), Norma Castaneda (DOE-RFFO), Brad Turner (Longmont Times), Frazer Lockhart (DOE-RFFO), Rich Schassburger (DOE-RFFO), Larry Kimmel (EPA), Roman Kohler (Rocky Flats Homesteaders), Mark Sattelberg (USFWS), Susan Griffin (EPA), Todd Neff (Boulder Daily Camera), Shirley Garcia (Broomfield), Jan Walstrom (Kaiser-Hill), David Abelson (RFCLoG), Kim McGuire (Denver Post), Ann Imsey (Rocky Mountain News), Simon Lipstein (DOE-RFFO), James Campbell (Westminster resident) / Ken Korkia (RFCAB staff), Patricia Rice (RFCAB staff)

**PUBLIC COMMENT / NEW BUSINESS:**

There was no public comment.

In new business, member Erin Hamby distributed a copy of report summarizing a study commissioned by her organization, the Rocky Mountain Peace and Justice Center. The study looked at soil sampling protocols used at Rocky Flats. It was conducted by an associate with Camp, Dresser and McKee and paid for with funds from the Citizen's Monitoring and Technical Assessment Fund.

Ken Korkia asked the large turnout for the meeting to please sign in. He also noted that the Board's 2004 Annual Report was available in the back of the room.

**PRESENTATION AND DISCUSSION ON AERIAL AND GROUND BASED RADIATION SURVEYS AT ROCKY FLATS:**

John Rampe of the Department of Energy and Jan Walstrom of Kaiser-Hill gave a presentation on the results of aerial and ground-based gamma surveys at Rocky Flats.

John said one reason the Energy Department conducted an independent verification of the cleanup was to ensure that areas were cleaned up in accordance with the Rocky Flats Cleanup Agreement (RFCA). Other reasons were to make sure areas that were not part of the cleanup were, in fact, clean, to provide an analysis that can be reviewed by independent consultants, and to allow open public involvement in the process.

There were three independent surveys of the site. Bechtel-Nevada was hired in June to do an aerial gamma survey of the site. Kaiser-Hill, the primary contractor for the cleanup, conducted a targeted ground-based survey around the edges of areas that had been cleaned up. The Oak Ridge Institute for Science and Education (ORISE) verified surface soil radiological concentrations in the 903 Lip Area.

Jan explained that the aerial scan involved mounting a gamma detector on a helicopter and flying in straight lines over most of the site. She said the 100-foot lines of flight and 730 square-meter field of view allowed 10 to 20 percent overlap along each flight path. Data was collected once a second. Plutonium cannot be seen directly with a gamma detector because it is an alpha emitter. However, the plutonium concentrations were calculated from detections of americium. Jan said that, in addition, the helicopter flew over the perimeter of the site, over water bodies, down drainages and along electrical lines that are on the eastern section of the site. The flyover began

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June 12 and ended June 14. The flyover required 194 transects of the site and seven flights for a total of 17.5 hours. The survey extended beyond the perimeter of the site.

Jan said the Minimum Detectable Activity (MDA) over some of the site was more than Bechtel-Nevada had originally calculated. That was due to altitude constraints caused by site topography, the variability of background radiation, and high soil moisture content.

Results from the 44,000 measurements showed one off-site and seven on-site anomalies. Four of the seven locations were false positives and were due to natural background radiation. The remaining three locations confirmed known sources on the site that are or were being removed – under building contamination (UBC) from Building 776, B Pond dirt bags, and waste containers in the 750 Pad tents. The only significant result from the survey was the one off-site area located on Section 16 of the State Lands Board property adjacent to and east of Highway 93. This spot is being investigated. DOE and Kaiser-Hill will provide comments to Bechtel-Nevada on its draft report in September.

The targeted ground-based scanning involved using a single detector with a 10-meter-diameter field of view. This yielded a total field of view of 78 square meters. Kaiser-Hill used a high-purity germanium (HPGe) detector to detect gamma rays. The scanning involved looking at the perimeter of several areas that had already been cleaned up. The scan was done to determine if the boundaries of the separate cleanup areas needed to be extended. The scanned sites include the 400 Area, the 700 Area, and the 903 Pad, along with nine other spots. Only the perimeters of the separate areas were scanned. The scanning began in late May and will continue through September. By the end of August 22, ten of the 12 areas were complete.

Of 178 locations scanned to date, 28 have shown readings greater than 50 picocuries per gram (pCi/g) over 78 square meters. 50 pCi/g is the level set for plutonium in the Rocky Flats Cleanup Agreement (RFCA) in the top three feet of surface soil. Samples were collected from each of the 28 locations and based on the more sensitive alpha spec results, five of the 28 locations were found to be greater than 50 pCi/g. Working with regulators as part of the RFCA process, Kaiser-Hill remediated all five locations – all of which were on the boundary of the 903 Pad Lip Area. The remediation involved 57 square meters of the 390-square-meter area.

The last of the three independent verification activities were conducted by ORISE. ORISE chose two areas in the 903 Pad Lip Area, one in the Inner Lip and one in the Outer Lip, to perform final surveys according to the Multi-Agency Radiation Survey and Site Investigation Manual (MARSSIM). MARSSIM is an interagency protocol developed among the Nuclear Regulatory Commission, Environmental Protection Agency, and the DOE. Each sampling area was 2,025 square meters. Within each of the areas, ORISE did a random-grid sampling, 100-percent scan, and judgmental sampling based on scanning results. Kaiser-Hill samples taken after remediation of the Lip Area showed mean Pu concentrations of 19.5 pCi/g in the Inner Lip and 19.8 pCi/g in the Outer Lip.

None of the 36 *random* samples showed results greater than 50 pCi/g of Pu. Inner Lip samples ranged from 1 to 29.7 pCi/g with a mean of 6.9 pCi/g. Outer Lip samples ranged from 1 to 42 pCi/g with a mean of 11.8 pCi/g. The samples were split with Kaiser-Hill, which confirmed the results of the random sampling.

While the random sampling produced low Pu results, the surface scan using a FIDLER probe found 13 areas indicating radiation was present. FIDLER stands for Field Instrument for the Detection of Low-Energy Radiation. The FIDLER scan cannot measure a precise amount of radiation but does produce a click in response to radiation. "Judgmental sampling" was conducted in the 13 areas. Judgmental sampling is used to confirm positive results from the FIDLER scan. It involves taking actual soil samples and testing them. In the Inner lip, results from the samples ranged from 108 to 425 pCi/g of Pu and the Outer Lip samples ranged from 65 to 301 pCi/g. Kaiser-Hill split samples were generally comparable. There was no indication of the area of the hot spots. Nine of the 13 areas ranged in size from 0.6 to 35 square meters. The total area of the 13 elevated readings is 63 square meters, about 1.6 percent of the total area of the two survey units.

Jan presented a summary of the final surveys and independent verification results for the 903 Pad Lip Area. The aerial survey did not find any anomalies within the area. The site's accelerated action confirmation sampling of 804 samples showed remediation objectives had been met. ORISE's random-grid sampling confirmed objectives had been met. The thirteen hot spots comprised a small area of the site. Jan said that none of the surveys showed large areas of substantial contamination.

All of the data are being evaluated in the Comprehensive Risk Assessment to determine risk posed by residual contamination.

Numerous clarifying questions were posed by Board and community members in a discussion following the presentation. Highlights of the discussion include the following questions and answers.

A Board member asked for clarification of the detection process by asking about the "averaging" process. He asked that if the detector sees 50 pCi/g over 78 square meters, is it averaging between readings lower than 50 and those higher than 50. Jan answered that was true. The Board member asked whether anything had been done to determine the maximum levels of contamination. Jan said those spots would be missed. John Rampe said that a large concentration would be picked up by the detector. John said the area plays an important role in determining whether a hot spot of, say, 400 pCi/g spot is important. Dr. Susan Griffin, a toxicologist with EPA, said it is expected that concentrations would be variable over the site. She said the risk assessment process takes those sorts of things into account and calculates a very conservative risk number.

A Board member asked if Jan or John would allow their children or grandchildren on the site. John answered that his children have been to Rocky Flats.

A Board member asked why the minimum detectable activity on the aerial scan was more than originally anticipated. Jan answered that natural background radiation in the area of the site was large, which interfered with the ability of the scanner to pick up other sources.

A Board member asked for a comparison of the 2005 aerial survey with the 1989 survey. Jan answered that the sensitivity of the detectors today was higher than in 1989. John said the 1989 survey found a plume coming from the 903 Pad that was not visible today because the Pad had been remediated.

In answer to a Board member question, John answered that he did not anticipate that the size of the land to be retained by DOE would increase because of the results.

A Local Government representative said that while the risk to humans might not be affected by the hot spots, soil contamination could cause contamination in surface water.

David Abelson, Executive Director of the Coalition of Local Governments, asked whether the hot spots would be remediated. John said they would not be. He said the area of the hot spots was far too small to represent a significant risk to human health and the environment. John said remediation was performed based on the 50 pCi/g standard set in RFCA. However, at this point, the site is looking back to see if the remediation has accomplished the overall objectives to the site. He said that right now the residual risk of the hot spots is tiny. It is on the order of a one in a million excess lifetime cancer risk to the wildlife refuge worker. David answered that that was not what was agreed upon with the community. He said that leaving the hotspots would not be in agreement with the cleanup levels. Carl Spreng of the Colorado Department of Public Health and Environment (CDPHE) said it was assumed there would be some spots above 50 pCi/g.

Todd Neff, reporter with the Boulder Daily Camera, said he understood there is a 1.6 percent chance in these areas of stepping into something above the action level. John responded there were nearly 1,000 samples in the area that were less than 50 pCi/g. He said that should give people some comfort. He said the hot spots did not contribute significantly to the risk. The area of the hot spots will be part of the DOE retained lands and not become a part of the refuge.

A Board Member commented that DOE needs to consider the public confidence in the cleanup and asked what it would take for DOE to go back and remove the hotspot contamination. John answered that the contract with the public is to deliver a safe site and he believes that is what is being done.

#### **APPROVAL OF LETTER TO ROCKY FLATS COALITION OF LOCAL GOVERNMENTS:**

The Board considered and approved a letter to the Rocky Flats Coalition of Local Governments. The letter was a response to the Coalition's invitation to the Board to participate in its September 12 discussion concerning the formation of a Local Stakeholder Organization (LSO) for Rocky Flats. In its letter, the Board noted its appreciation

that the Coalition had reached out to other groups in the community, but noted concerns that the timing of the meeting (on a Monday morning) and the limited outreach to a wider cross-section of the community were a problem. The Board reiterated its invitation to work with the Coalition in setting up a more inclusive and accessible public involvement process related to establishing the future LSO. Board Chair Jerry DePoorter will represent the Board at the Coalition meeting and will share these same concerns.

#### **PLANNING FOR UPCOMING MEETINGS:**

The September Committee Night will focus on the Remedial Investigation / Feasibility Study (RI/FS) for Rocky Flats and other regulatory closure activities. The Board will invite site representatives to discuss the timeframe, content and future public presentation of the RI/FS and other closure documents.

At the October monthly meeting, the Board will have a presentation and discussion on the recently updated Site Wide Water Balance. The also will approve its 2006 Work Plan and budget. There also will be an update on regulatory closure activities.

#### **NEXT MEETING:**

*Date:*            *October 6, 2005 6 to 9:00 p.m.*  
*Location:*    *College Hill Library, Room L-268, Front Range Community College*  
*Agenda:*       •

**MEETING ADJOURNED AT 9:00 p.m. •**

(\* Taped transcript of full meeting is available in the RFCAB office.)

**RESPECTFULLY SUBMITTED:**

Bill Kossack, Secretary  
Rocky Flats Citizens Advisory Board

The Rocky Flats Citizens Advisory Board is a community advisory group that reviews and provides recommendations on cleanup plans for Rocky Flats, a former nuclear weapons plant outside of Denver, Colorado.

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